UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/551,802	04/18/2000	Paul A. Underbrink	50321-1010	2588

30554	7590	04/08/2004

SHEMWELL GREGORY & COURTNEY LLP
4880 STEVENS CREEK BOULEVARD
SUITE 201
SAN JOSE, CA 95129

EXAMINER
LUGO, DAVID B

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/551,802	UNDERBRINK, PAUL A.
	Examiner	Art Unit	
	David B. Lugo	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2003*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-66* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-66* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

1.   The terminal disclaimer filed on 12/29/03 disclaiming the terminal portion of any patent

granted on this application which would extend beyond the expiration date of any patent granted

on U.S. Application Number 09/551,276 has been reviewed and is accepted. The terminal

disclaimer has been recorded.

Response to Arguments

2.   Applicant's arguments, see page 27, filed 12/29/03, with respect to the rejection(s)of

claim(s) 1, 2, 5, 8, 10, 11, 14, 15, 18, 21, 23, 26, 27, 30, 33, 35, 38, 39, 42, 45 and 47, under 35

U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been

withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view

of a new prior art reference.

Specification

3.   The disclosure is objected to because of the following informalities:

Page 48, lines 11-15, reference to U.S. patent application serial no. 09/145,055 should be

updated to include that it is now U.S. Patent No. 6,044,105.

Appropriate correction is required.

Claim Objections

4.   Claims 2, 5, 6, 12, 24, 39, 48 and 59 are objected to because of the following

informalities:

a.   Claim 2 recites the limitation "the...integrating step" in line 2. There is

insufficient antecedent basis for this limitation in the claim. It is suggested that the term

"combining" in the next to last line of parent claim 1 be changed to --integrating-- to provide proper antecedent basis for the "integrating" of claim 2.

b.   Claims 5 and 6 each recite, "the combining step" in line 2, respectively. However, parent claim 1 recites two combining steps, and thus there is an ambiguity as to which combining step is being referred. In accordance with the suggested amendment of claim 1 indicated in the above claim objection, in line 2 of each of claims 5 and 6, "the combining" should be --the integrating--.

c.   Claims 12, 24 and 48 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claims 12, 24 and 48 recite the same limitations as their respective amended parent claims.

d.   Claim 39 recites "the ... combining steps" in lines 2-3. However, parent claim 38 recites two combining steps, and thus there is an ambiguity as to which combining step is being referred. It is suggested that the intended combining step be specified.

e.   Claim 59, line 13, "fourth in instructions" should be --fourth instructions--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1-6, 8-19, 21-31 and 33-37 are rejected under 35 U.S.C. 102(e) as being

anticipated by Westcott et al. U.S. Patent 6,298,083.

7.   Regarding claims 1, 14 and 26, Westcott et al. disclose in Fig. 8, a spread spectrum

detector where a signal is received, a correlator 73 generates a plurality of correlation values

based on the signal and a code generated by reference code generator 77, and an accumulation

block 74, shown in detail in Fig. 12, includes multipliers 110 generating a plurality of complex

second correlation values from the first correlation values by combining the first correlation

values with a mixing signal MS output by generators 111 via a look-up table using the value

PHASE which represents a basic Doppler offset, and the second correlation values are

accumulated in stages 114 and 117 to provide a third correlation value that indicates a degree of

correspondence of the code with the signal (see col. 13, line 1 to col. 14, line 17).

8.   Regarding claims 2, 15 and 27, Westcott et al. disclose that code acquisition is performed

by searching a region defined by a number of code offset values, where the offsets represent

different values of phase offset between the received code and the reference code (col. 1, lines

36-46), correlation stage 73 search sets of code offset bins (col. 6, lines 3-7) and outputs

correlation results to accumulation stage 74 (col. 9 lines 9-13), and threshold detect/buffer circuit

(TDBC) 75 applies a threshold function to the signals output from accumulation stage 74 to

provide an indication when a signal is found (see col. 9, lines 31-33, Fig. 8).

9.   Regarding claims 3, 16 and 28, Westcott et al. disclose in Fig. 11, that the correlation

stage 73 includes correlator/shift register (CSR) 105 that provides the XOR of each bit of the

input signal and each bit of the reference code, and fractal adder circuit 106 that provides a

summation of the COR values (see col. 12, lines 15-46).

10.   Regarding claims 4, 17 and 29, Westcott et al. show in Fig. 12 that generators 111 apply incrementally different phases to the received first correlation values.

11.   Regarding claims 5, 18 and 30, Westcott et al. further disclose that coherent accumulators 114 are used for accumulating both in-phase and quadrature components (col. 13, lines 33-41).

12.   Regarding claims 6, 19 and 31, Westcott et al. further disclose magnitude/non-coherent accumulation circuits (MNCAs) 117 perform non-coherent accumulation (col. 14, lines 10-12).

13.   Regarding claims 8, 21 and 33, the first correlation values are considered to be produced via a digital signal processor, shown in Fig. 11.

14.   Regarding claims 9, 22 and 34, the input signal is received from a GPS satellite (col. 1, lines 15-18).

15.   Regarding claims 10, 23 and 35, the signal is a carrier signal modulated with a repeating code (col. 1, lines 15-29).

16.   Regarding claim 11, an indication when a signal is found is provided by TDBC 75, which is considered a processor circuit.

17.   Regarding claims 12, 24 and 36, mixer 110 is used to combine a phase shift value with each of the first correlation values to produce the second correlation values.

18.   Regarding claims 13, 25 and 37, Westcott et al. disclose in Fig. 8, a spread spectrum detector where a signal is received, a correlator 73 generates a plurality of correlation values based on the signal and a code generated by reference code generator 77, and an accumulation block 74, shown in detail in Fig. 12, include multipliers 110 generating a plurality of complex second correlation values from the first correlation values by combining the first correlation values with mixing values output from generators 111, and the second correlation values are

accumulated in stages 114 and 117 to provide a third correlation value that indicates a degree of

correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17), where the mixing

values may be stored in a look-up table identified using the PHASE value supplied thereto.

Claim Rejections - 35 USC § 103

19.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

20.   Claims 38-43 and 45-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Westcott et al.

21.   Regarding claim 38, Westcott et al. disclose in Fig. 8, a spread spectrum detector where a

signal is received, a correlator 73 generates a plurality of correlation values based on the signal

and a code generated by reference code generator 77, and an accumulation block 74, shown in

detail in Fig. 12, includes multipliers 110 generating a plurality of complex second correlation

values from the first correlation values by combining the first correlation values with a mixing

signal MS output by generators 111 via a look-up table using the value PHASE which represents

a basic Doppler offset, and the second correlation values are accumulated in stages 114 and 117

to provide a third correlation value that indicates a degree of correspondence of the code with the

signal (see col. 13, line 1 to col. 14, line 17).

22.   Westcott et al. do not disclose that the detector may be implemented via a computer

readable medium having program instructions. However, it is well known in the art to

implement receivers using computer readable medium containing program instructions.

23.   Therefore, it would have been obvious to one of ordinary skill in the art to implement the detector of Westcott et al. using computer readable medium having program instructions because hardware and software implementations are well-recognized art equivalents.

24.   Regarding claim 39, Westcott et al. disclose that code acquisition is performed by searching a region defined by a number of code offset values, where the offsets represent different values of phase offset between the received code and the reference code (col. 1, lines 36-46), correlation stage 73 search sets of code offset bins (col. 6, lines 3-7) and outputs correlation results to accumulation stage 74 (col. 9 lines 9-13), and threshold detect/buffer circuit (TDBC) 75 applies a threshold function to the signals output from accumulation stage 74 to provide an indication when a signal is found (see col. 9, lines 31-33, Fig. 8).

25.   Regarding claim 40, Westcott et al. disclose in Fig. 11, that the correlation stage 73 includes correlator/shift register (CSR) 105 that provides the XOR of each bit of the input signal and each bit of the reference code, and fractal adder circuit 106 that provides a summation of the COR values (see col. 12, lines 15-46).

26.   Regarding claim 41, Westcott et al. show in Fig. 12 that generators 111 apply incrementally different phases to the received first correlation values.

27.   Regarding claim 42, Westcott et al. further disclose that coherent accumulators 114 are used for accumulating both in-phase and quadrature components (col. 13, lines 33-41).

28.   Regarding claim 43, Westcott et al. further disclose magnitude/non-coherent accumulation circuits (MNCAs) 117 perform non-coherent accumulation (col. 14, lines 10-12).

29.   Regarding claim 45, the first correlation values are considered to be produced via a digital signal processor, shown in Fig. 11.

30.   Regarding claim 46, the input signal is received from a GPS satellite (col. 1, lines 15-18).

31.   Regarding claim 47, the signal is a carrier signal modulated with a repeating code (col. 1, lines 15-29).

32.   Regarding claim 48, mixer 110 is used to combine a phase shift value with each of the first correlation values to produce the second correlation values.

33.   Regarding claim 49, Westcott et al. disclose in Fig. 8, a spread spectrum detector where a signal is received, a correlator 73 generates a plurality of correlation values based on the signal and a code generated by reference code generator 77, and an accumulation block 74, shown in detail in Fig. 12, include multipliers 110 generating a plurality of complex second correlation values from the first correlation values by combining the first correlation values with mixing values output from generators 111, and the second correlation values are accumulated in stages 114 and 117 to provide a third correlation value that indicates a degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17), where the mixing values may be stored in a look-up table identified using the PHASE value supplied thereto.

34.   Westcott et al. do not disclose that the detector may be implemented via a computer readable medium having program instructions. However, it is well known in the art to implement receivers using computer readable medium containing program instructions.

35.   Therefore, it would have been obvious to one of ordinary skill in the art to implement the detector of Westcott et al. using computer readable medium having program instructions because hardware and software implementations are well-recognized art equivalents.

36.   Claims 7, 20, 32 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Westcott et al. in view of Atarius et al. U.S. Patent 6,373,882.

37.   Regarding claims 7, 20, 32 and 44, Westcott et al. disclose a spread spectrum detector comprising a searcher for generating correlation values, as disclosed above, but do not disclose that the correlation values are produced by a matched filter.

38.   However, it is well known in the art to use a matched filter in a searcher. Further, Atarius et al. disclose in column 5, lines 57-63 that searchers using matched filters and those using correlators are well recognized art equivalents. Therefore, it would have been obvious to one of ordinary skill in the art to use a matched filter in the searcher of Westcott et al. as they are art recognized equivalents.

39.   Claims 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner U.S. Patent 5,825,327 (disclosed by applicant) in view Westcott et al.

40.   Krasner '327 discloses a GPS receiver including all of the limitations of claims 50 and 51 (see '327 Patent, claims 1 and 30) except for a multiplier for producing first correlation values using the signal and a code, a phase shifter for generating second correlation values from the first correlation values, and an integrator for deriving a third correlation value.

41.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73 for generating a plurality of correlation values based on a signal and a code generated by reference code generator 77, and an accumulation block 74 having multipliers 110 for generating a plurality of complex second correlation values from the first correlation values by combining the first correlation values with a mixing signal MS output by generators 111 via a look-up table using the value PHASE which represents a basic Doppler offset, and the second correlation values are accumulated in stages 114 and 117 to provide a third correlation value indicating a degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

42.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

43.   Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner U.S.

Patent 5,945,944 (disclosed by applicant) in view Westcott et al.

44.   Krasner '944 discloses a method for determining a position of a GPS receiver including

all of the limitations of claim 52 (see '944 Patent, claim 1) except producing first correlation

values using the signal and a code, generating second correlation values from the first correlation

values, and combining the second correlation values to generate a third correlation value.

45.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

46.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

47.   Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner U.S.

Patent 5,831,574 (disclosed by applicant) in view Westcott et al.

48.   Krasner '574 discloses a method of operating a GPS receiver with all of the limitations of

claim 53 (see '574 Patent, claim 1) except producing first correlation values using the signal and

a code, generating second correlation values from the first correlation values, and combining the

second correlation values to generate a third correlation value.

49.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

50.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

51.   Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner U.S.

Patent 5,884,214 (disclosed by applicant) in view Westcott et al.

52.   Krasner '214 discloses a method for using a dual mode GPS receiver including all of the

limitations of claim 54 (see '214 Patent, claim 11) except producing first correlation values using

the signal and a code, generating second correlation values from the first correlation values, and

combining the second correlation values to generate a third correlation value.

53.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

54.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

55.   Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner

U.S. Patent 5,874,914 (disclosed by applicant) in view Westcott et al.

56.   Krasner '914 discloses a method for determining the position of a remote unit with all of

the limitations of claim 55 (see '914 Patent, claim 1) except producing first correlation values

using the signal and a code, generating second correlation values from the first correlation

values, and combining the second correlation values to generate a third correlation value.

57.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

58.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

59.   Krasner '914 discloses a method of using a base station for providing a communications

link to a mobile GPS unit including all of the limitations of claim 56 (see '914 Patent, claim 17)

except producing first correlation values using the signal and a code, generating second

correlation values from the first correlation values, and combining the second correlation values

to generate a third correlation value.

60.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

61.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

62.   Claims 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner

U.S. Patent 6,016,119 (disclosed by applicant) in view Westcott et al.

63.   Krasner '119 discloses a method of determining the location of a remote object with all

of the limitations of claim 57 (see '119 Patent, claim 1) except producing first correlation values

using the signal and a code, generating second correlation values from the first correlation

values, and combining the second correlation values to generate a third correlation value.

64.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73 for generating a plurality of correlation values based on a signal and a code generated by reference code generator 77, and an accumulation block 74 having multipliers 110 for generating a plurality of complex second correlation values from the first correlation values by combining the first correlation values with a mixing signal MS output by generators 111 via a look-up table using the value PHASE which represents a basic Doppler offset, and the second correlation values are accumulated in stages 114 and 117 to provide a third correlation value indicating a degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

65.   It would have been obvious to one of ordinary skill in the art to use the detector of Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

66.   Krasner '119 discloses a method of tracking a remote object with all of the limitations of claim 58 (see '119 Patent, claim 14) except producing first correlation values using the signal and a code, generating second correlation values from the first correlation values, and combining the second correlation values to generate a third correlation value.

67.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73 for generating a plurality of correlation values based on a signal and a code generated by reference code generator 77, and an accumulation block 74 having multipliers 110 for generating a plurality of complex second correlation values from the first correlation values by combining the first correlation values with a mixing signal MS output by generators 111 via a look-up table using the value PHASE which represents a basic Doppler offset, and the second correlation values are accumulated in stages 114 and 117 to provide a third correlation value indicating a degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

68.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

69.   Claims 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner

U.S. Patent 5,781,156 (disclosed by applicant) in view Westcott et al.

70.   Krasner '156 discloses a computer readable medium containing a computer program

having executable code for a GPS receiving having all of the limitations of claim 59 (see '156

Patent, claim 1) except producing first correlation values using the signal and a code, generating

second correlation values from the first correlation values, and combining the second correlation

values to generate a third correlation value.

71.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

72.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

73.   Krasner '156 discloses a computer readable medium containing a computer program

having executable code for a GPS receiving having all of the limitations of claim 60 (see '156

Patent, claim 12) except producing first correlation values using the signal and a code, generating

second correlation values from the first correlation values, and combining the second correlation

values to generate a third correlation value.

74.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

75.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

76.   Claims 61-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner

U.S. Patent 5,841,396 (disclosed by applicant) in view Westcott et al.

77.   Krasner '396 discloses a method of calibrating a local oscillator in a GPS receiver with

all of the limitations of claim 61 (see '396 Patent, claim 1) except producing first correlation

values using the signal and a code, generating second correlation values from the first correlation

values, and combining the second correlation values to generate a third correlation value.

78.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

79.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

80.   Krasner '396 discloses a method of using a base station to calibrate a local oscillator in a

mobile GPS receiver with all of the limitations of claim 62 (see '396 Patent, claim 17) except

producing first correlation values using the signal and a code, generating second correlation

values from the first correlation values, and combining the second correlation values to generate

a third correlation value.

81.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

82.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

83.   Krasner '396 discloses a method of deriving a local oscillator in a GPS receiver with all

of the limitations of claim 63 (see '396 Patent, claim 29) except producing first correlation

values using the signal and a code, generating second correlation values from the first correlation

values, and combining the second correlation values to generate a third correlation value.

84.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

85.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

86.   Claims 64 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sheynblat U.S. Patent 5,999,124 (disclosed by applicant) in view Westcott et al.

87.   Sheynblat '124 discloses a method for processing position information with all of the

limitations of claim 64 (see '124 Patent, claim 1) except producing first correlation values using

the signal and a code, generating second correlation values from the first correlation values, and

combining the second correlation values to generate a third correlation value.

88.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

89.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Sheynblat to compensate for Doppler shift.

90.   Sheynblat '124 discloses a method for processing position information in a digital

processing system including all of the limitations of claim 65 (see '124 Patent, claim 12) except

producing first correlation values using the signal and a code, generating second correlation

values from the first correlation values, and combining the second correlation values to generate

a third correlation value.

91.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

92.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Sheynblat to compensate for Doppler shift.

93.   Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner U.S.

Patent 6,002,363 (disclosed by applicant) in view Westcott et al.

94.   Krasner '363 discloses a method of controlling a communication link including all of the

limitations of claim 66 (see '363 Patent, claim 1) except producing first correlation values using

the signal and a code, generating second correlation values from the first correlation values, and

combining the second correlation values to generate a third correlation value.

95.   Westcott et al. disclose in Fig. 8, a spread spectrum detector comprising a correlator 73

for generating a plurality of correlation values based on a signal and a code generated by

reference code generator 77, and an accumulation block 74 having multipliers 110 for generating

a plurality of complex second correlation values from the first correlation values by combining

the first correlation values with a mixing signal MS output by generators 111 via a look-up table

using the value PHASE which represents a basic Doppler offset, and the second correlation

values are accumulated in stages 114 and 117 to provide a third correlation value indicating a

degree of correspondence of the code with the signal (col. 13, line 1 to col. 14, line 17).

96.   It would have been obvious to one of ordinary skill in the art to use the detector of

Westcott et al. in the receiver of Krasner to compensate for Doppler shift.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to **David B. Lugo** whose telephone number is **(703) 305-0954**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

dl
3/31/04

STEPHEN CHIN
SUPERVISORY PATENT EXAMIN
TECHNOLOGY CENTER 2600